



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,060	04/08/2004	Eric R. Blomiley	MI22-2518	2095
21567	7590	08/01/2006	EXAMINER	
WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			MOORE, KARLA A	
			ART UNIT	PAPER NUMBER

1763

DATE MAILED: 08/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/822,060

Applicant(s)

BLOMILEY ET AL.

Examiner

Karla Moore

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-5 and 8-16 in the reply filed on 25 May 2006 is acknowledged.
2. Claims 6 and 7 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim.
3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,021,152 to Olsen.
6. Olsen et al. disclose a deposition apparatus, comprising : a substrate susceptor (Figure 1, 22) for receiving a semiconductor wafer substrate (20); one or more lamps (56 and 66) for providing radiant energy to the substrate; and at least one of the lamps having a reflector (Figure 3, 100) associated therewith for reflecting radiant energy from said at least one of the lamps toward the substrate, said reflector having a rugged reflective surface configured to disperse the radiant energy reflected therefrom (column 6, rows 34-30 and column 6, row 55 through column 7, row 3).

Art Unit: 1763

7. With respect to claim 2, the rugged reflective surface comprises a repeating pattern (See Figure 3).
8. With respect to claim 3, the repeating pattern extends across entirely across the rugged reflective surface (column 9, rows 22-24).
9. With respect to claim 4, the rugged reflective surface comprises a repeating pattern of dimples (See Figure 3).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Olsen et al. as applied to claims 1-4 above in view of U.S. Patent No. 5,061,872 to Kulka.
13. Olsen et al. disclose the invention substantially as claimed and as described above. Examiner notes that Olsen et al. further teach that is known in the art to provide reflectors behind CVD furnace heating lamps including roughened or otherwise irregular surfaces (column 6, rows 3-5).
14. However, Olsen et al. fail to explicitly teach a rugged reflective surface comprising a surface of crumpled metallic foil.

Art Unit: 1763

15. Kulka teach using a surface of crumpled metallic foil for the purpose of dispersing impinging light (column 8, rows 63-68 and column 10, rows 45-50).

16. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a crumpled metallic foil reflective surface in Olsen et al. in order to disperse impinging light as taught by Kulka.

17. Claims 8-9, 11-12 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olsen et al. as applied to claims 1-4 above in view of U.S. Patent No. 6,108,490 to Lee et al.

18. Olsen et al. disclose the invention substantially as claimed and as described above.

19. However, Olsen et al. fail to teach adjacent lamps providing overlapping radiant energy impact the substrate.

20. Lee et al. teach adjusting the positioning of a plurality of lamps radiating energy to a substrate to change the degree of overlap between the energy radiated from adjacent lamps for the purpose of obtaining optimum temperature controllability (column 8, rows 39-43; column 8, row 66 through column 9, row 14; column 9, rows 19-25; and column 11, rows 30-40).

21. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided the plurality of lamps in Olsen et al. at positions such that a desirable overlap is created between the respective radiant energy each creates for impacting the substrate in order to obtain optimum temperature controllability as taught by Lee et al.

22. Examiner recognizes that Lee et al. does not teach specific amounts of overlapping radiant energy as claimed. However, Examiner notes that the courts have ruled Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Based on the teachings of Lee et al. it would have been obvious to one of ordinary skill in the art that based on a desired heating pattern, the overlap of the radiant energy could be controlled as needed. Choosing a specific amount would have been based on a method performed using the apparatus and desired results.

Art Unit: 1763

23. With respect to claims 9, 12 and 15, any of the inner and/or the outer lamps in Olsen et al. and Lee et al. could be positioned to overlap.

24. Claims 10, 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olsen et al. and Lee et al. as applied to claims 8-9, 11-12 and 14-15 above in view of U.S. Patent No. 4,558,660 to Nishizawa et al.

25. Olsen et al. and Lee et al. disclose the invention substantially as claimed and as described above.

26. However, Olsen et al. and Lee et al. fail to specifically teach four lamps, two inner and two outer.

27. Nishizawa et al. teach that the number of lamps necessary in a substrate processing apparatus for processing a substrate depends on the number and size of wafers to be processed simultaneously (column 6, rows 26-31).

28. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided the necessary number of lamps in Olsen et al. and Lee et al. based on the number and size of wafers to be processed simultaneously as taught by Nishizawa et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 571.272.1440. The examiner can normally be reached on Monday-Friday, 9:00 am-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571.272.1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1763

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'KM', is positioned above the printed name of the examiner.

Karla Moore
Primary Examiner
Art Unit 1763
25 July 2006